



LP2.5PT23C36P02

Transient Voltage Suppressors Array

Descriptions

LP2.5PT23C36P02 in a small SOT-23 Surface-Mounted Device (SMD) plastic package designed to protect two lines from the damage caused by Electro Static Discharge (ESD) and other transients.

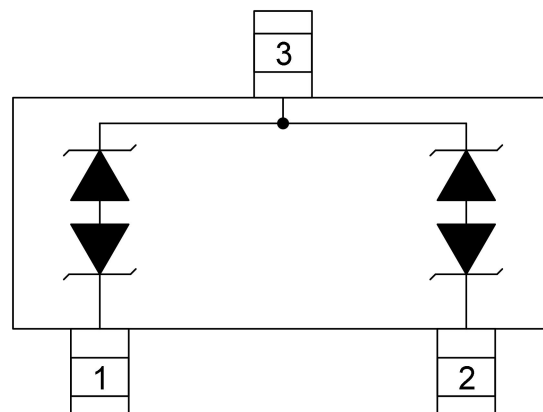
Features

- ◆ Max. peak pulse power: $P_{PPM} = 250 \text{ W}$ at $t_p = 8/20\mu\text{s}$
- ◆ IEC61000-4-5 (surge): 5A (8/20 μs)
- ◆ IEC61000-4-2 ESD 15KV Air, 8KV contact compliance, ESD protection up to 30 kV
- ◆ IEC61000-4-4 EFT 2KV/40A (5/50 ns)
- ◆ Protects two Bi-directional line
- ◆ Response time < 1ns
- ◆ Working voltage is 36V
- ◆ Lower leakage current
- ◆ Excellent clamping voltages
- ◆ Solid-state silicon avalanche technology
- ◆ Solder reflow temperature Tin-Sn, 260-270°C
- ◆ Plastic package has underwriters laboratory flammability 94V-0
- ◆ Meet Lead Free/RoHS compliant

Applications

- ◆ RS422
- ◆ STB

Schematic



Dimensions (SOT-23)

Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.08	0.18	0.003	0.007
B	0.15	-	0.006	-
C	-	0.13	-	0.005
D	0.89	1.09	0.035	0.043
E	2.80	3.05	0.110	0.120
F	1.90		0.075	
G	0.95		0.037	
H	1.19	1.40	0.047	0.055
I	2.10	2.49	0.083	0.098
J	0.35	0.50	0.014	0.020

Recommended Soldering Pad Layout

Maximum Ratings and Characteristics at 25°C ambient temperature unless otherwise Noted.

Rating	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P _{PPM}	250	W
ESD voltage (HBM contact)	VESD	±8	KV
ESD voltage (AIR contact)		±15	
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number	Marking Code	Reverse Stand-Off Voltage	Breakdown Voltage @	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}	Capacitance At 1MHZ 0V
		V _{RWM} (V)	V _{BR} (V)min	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)	C _j (PF)
LP2.5PT23 C36P02	DB2	36.0	40.0	1	60.0	1	1	15

Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

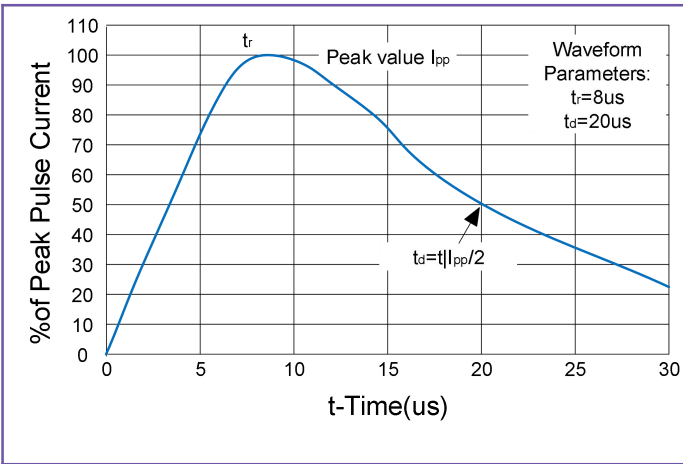


Figure 2. Pulse Derating Curve

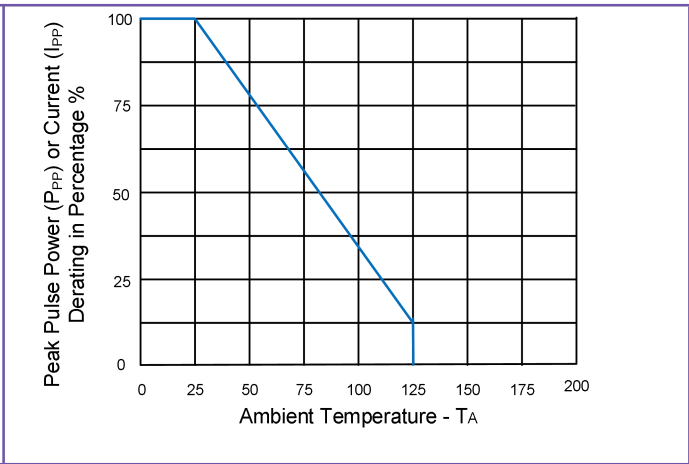


Figure 3. Clamping Voltage vs. Pulse Current

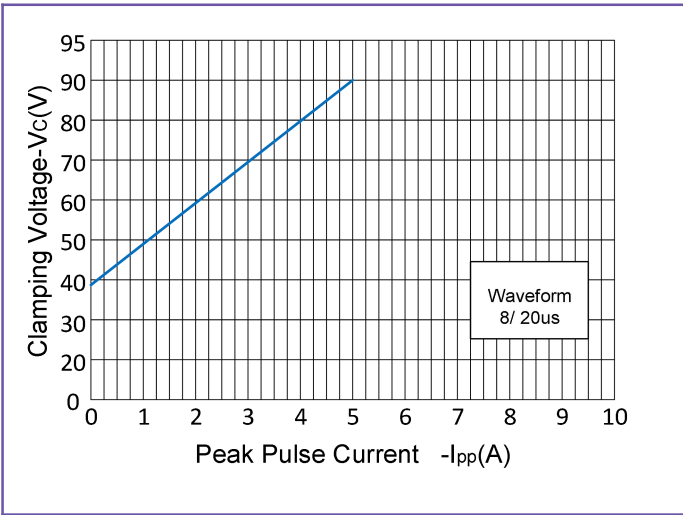
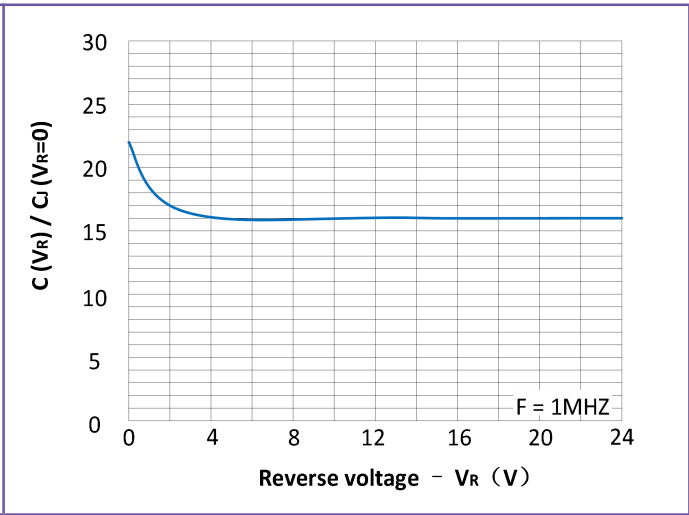
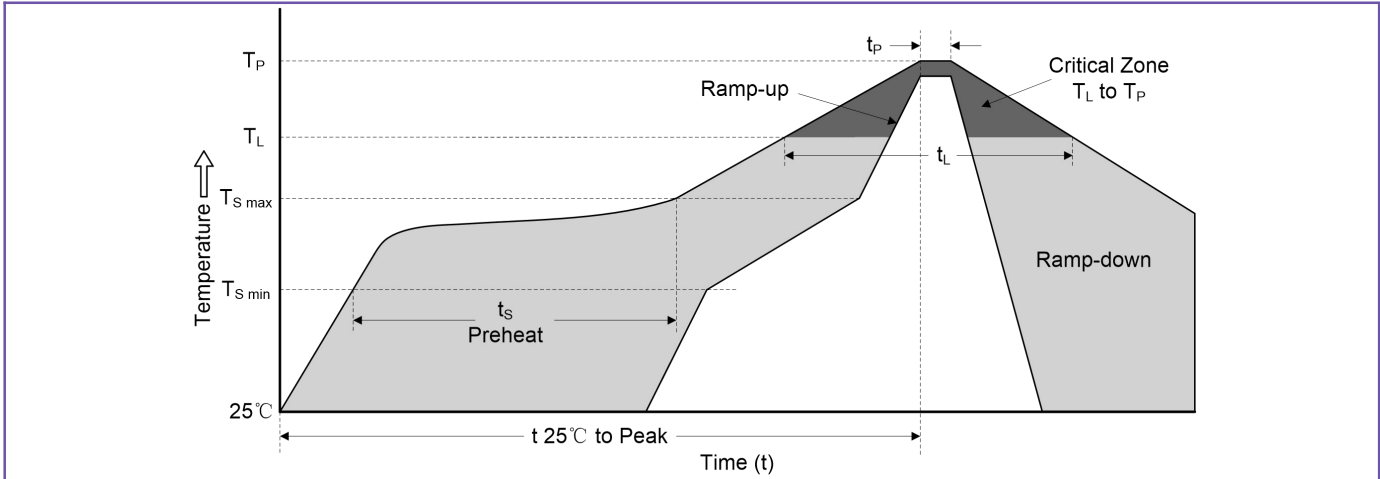


Figure 4. Typical Junction Capacitance



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150℃
	-Temperature Max ($T_{S\ max}$)	200℃
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3℃/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3℃/second max.
Reflow	-Temperature (T_L) (Liquidus)	217℃
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)℃
Time within 5℃ of actual Peak Temperature (t_P)		20-40 seconds
Ramp-down Rate		6℃/second max.
Time 25℃ to Peak Temperature(T_P)		8 minutes max.
Do not exceed		260℃

Package

Part number	QTY/Reel	Reel Size
LP2.5PT23C36P02	3000PCS	7Inch